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PROCEEDED OF TREATMENT OF A FLEXIBLE MATERIAL PRESENTING A DECORATION METALLIZES AND MATERIAL OBTAINED

The present invention relates to the treatment of a flexible material, in particular textile, to which was beforehand applied a resin forming a metallized decoration. In particular the purpose of the treatment is to modify the visual aspect of the metallized decoration and also the touch, the hand of flexible material. Lastly, and it is a particularly interesting aspect of the treatment, it makes it possible to obtain articles presenting a double contrasted metallization.

The realization of a decorative effect metallized on a material is well-known of the specialist of the profession. For example one obtains an effect of gilding while applying to the support, in particular textile, a complex film including/understanding a succession of three layers: a polyester feuille, a polyurethane resin in which are included gilded particles, and a resin thermocoallante. During the application of film, the face comprising the adhesive is in contact with the support to be decorated. L' " application is done by calendering at a temperature lower than the melting point of polyester and sufficient so that the resin thermocoallante adheres at the same time to the support and the gilded resin. It is followed of a brutal cooling which rigidifies the resins and makes it possible to withdraw by delamination the polyester sheet. The shape of the gilded decoration is given by the resin thermocoallante. If the resin thermocoallante were uniformly distributed on all the surface of complex film, the gilded decoration will be uniform. On the other hand if the resin thermocoallante were applied according to reasons' given, one finds on the support the same reasons; indeed during the delamination of the polyester sheet, the layer of gilded resin will adhere to the support only with the sites where it is related to the resin thermocoallante, elsewhere it will remain on the polyester sheet.

The materials thus metallized have very an aspect shining, which limits their field of use. Moreover the presence of the resin the touch, the hand of material modifies considerably. This is all the more sensitive as it is about a light fabric, and that the reasons represent a significant part of the surface of material.

However one found, and it is what is the subject of the invention, a process of treatment which mitigates the disadvantages noted in what it modifies the visual aspect of the reason metallized by attenuating its brightness and in what it improves the touch of metallized material. The process according to the invention consists, starting from a flexible material to which one applied a resin beforehand forming a metallized decoration, to make pass material in run in vapor at high temperature and high pressure, while subjecting it to a light drawing in the transverse direction with displacement.

The metallized decoration, after the material underwent the above mentioned treatment, has an aspect much more chechmate that the initial decoration. Moreover the distribution of the resin on material, because of action of the vapor and drawing, is modified, which causes to give to material a greater flexibility, and in the case of a fabric a textile hand.

Preferably, the passage in the vapor is made whereas this one is at a temperature ranging between 160 DEG and 180 DEGREE C for a pressure ranging between 6 and 8 bars, advantageously at a temperature of 175 DEGREE C for a pressure of 8 bars.

One included/understood, with the reading by what limitativement precedes that the process of the invention is applicable to flexible materials, i.e. those which can support a light transverse drawing. Preferably this drawing is about some pourcents; advantageously 4 to 5 percent.

In a particularly interesting mode of the process of the invention, one starts from a flexible material on the surface of which one applied a resin beforehand forming a decoration metallized according to a one bottom or reasons', in a first stage one makes pass material in vapor at high temperature and high pressure all while subjecting it to a light transverse drawing, then in one second stage one applies to part of surface of material thus treated and according to other reasons' a resin forming a maetallized decoration.

Thus a double metallization is carried out, but thanks to the treatment of the invention, the material presents a visual effect contrasted between the metallized reasons of aspect shining and the one bottom or the metallized reasons for aspect chechmate

Preferably during the second above mentioned stage, one gives material roughly to his initial width, catching up with of this fact the increase in width acquired during the drawing of the first stage. This causes to still improve the flexibility of material.

It is another object of the invention which to protect the products directly obtained by the process from the invention, and whose characteristics, already evoked above, are to relatively have a decoration metallized at aspect chechmate and a great flexibility. And in the case of the double metallization, the material presents a

contrasted metallized decoration, between reasons with aspect shining and a one bottom or reasons with aspect chechmate.

The invention will be included/ understood better with the reading of the description which will be made of an example of realization of a textile fabric presenting a double contrasted metallization.

The flexible starting material is a knitting interlock of gauge 28, 100% polyester of 150 cm width. To all the surface of this fabric was applied in a known way a resin forming a silver plated decoration. With this intention, one implemented a complex film, comprising three layers: a polyester sheet, a resin polyurethane in which are included the silver plated particles and a continuous layer of resin thermocollante. The application of the silver plated resin was carried out uninterruptedly by calendaring, cooling, delamination of the polyester sheet and rolling up. Calendaring took place with 180 DEGREE C, with a time of contact of about 20 seconds; the pressure exerted by calendaring between the fabric and film complexes was of $175 \text{ g/cm}^2 >$. The film was introduced into the grill so that the polyester sheet was in contact with the cylinder heating and lay down it resin thermocollante in contact with the face of the fabric intended to receive the decoration.

As of the exit of the grill, blasts air pulsed coming from tubes supplied with a ventilator, cooled the unit packs/complex film by striking the polyester sheet. Then the polyester sheet was withdrawn by delamination and the fabric, on which the resin silver plated thanks to the resin thermocollante was dependent, was rolled up.

The fabric thus silver plated uniformly is treated according to the process of the invention. It is unrolled and transported through an enclosure in which from the vapor with 175 DEGREE C under a pressure of 8 bars is fed. During its passage in the enclosure the fabric is hand held along its edges by barbs with a width higher than its initial width, namely 156 centimetres is a transverse drawing of 4%. The duration of the action of the vapor is about 10 seconds. Then the fabric is rolled up.

The silver plated fabric obtained after this treatment by the vapor under drawing lost its brilliance and now has a definitely improved textile hand. Its width, after rolling up, is about 153 cms.

One applies to this fabric a resin forming a gilded decoration, in accordance with what was described above, but to a reduced part of the surface already silver plated, according to decorative reasons'. For that, one starts from a film complexes whose resin polyurethane is included gilded particles and whose resin thermocollante is applied according to the desired reasons; and one implements the same procedure except one maintains the edges of the fabric so that it finds during final rolling up its initial width of 150 cms.

The fabric obtained presents a contrasted decoration: the gilded reasons are brilliant and are detached on the plain bottom silver plated from aspect chechmate. It is flexible, it has a hand and a touch textiles.

The description which has been just made was as example and invention is not restrictive. In particular the conditions of the treatment the vapor will be adopted precisely by the specialist of the profession according to the composition of complex film. The temperature must be sufficiently high to cause the degradation of the brightness of the metallized particles, but must however be lower than the melting point of the resin. It is noted for example whom a resin with gilded decoration loses its gilded aspect if the temperature reaches 220 DEGREE C.

Moreover, the invention is not limited by the mode of application of the resin forming metallized decoration which was described above.

It is allocated to the specialist of the profession to combine the decorations and the reasons according to the desired decorative aspect, from simple or of a double metallization like it was known as, and even of a more significant number still of metallization.